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P O BOX 980			CHANG, CHING	
VALLEY FORGE, PA 19482-0980			ART UNIT	PAPER NUMBER
			3748	
			MAIL DATE	DELIVERY MODE
			04/08/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary**Application No.**

10/780,947

Applicant(s)

SEDDA ET AL.

Examiner

CHING CHANG

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Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 2/12/07, 10/18/06.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1, 4-7, and 9-13 is/are pending in the application.
- 4a) Of the above claim(s) 6 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 4, 5, 7 and 9-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/S508)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____
- Paper No(s)/Mail Date _____

DETAILED ACTION

This Office Action is following the Applicants' election of the species of Figs. 5a-5b) without traverse, in the Examiner Interview Summary mailed on 5/25/07, which is related to the Applicants' election of the species filed on 2/12/07. In addition, according to the Applicants' amendment filed on 10/18/06, claim 6 is withdrawn as requested. Furthermore, in view of the contents of the withdrawn claims 2-3, and 8 are blank, without any listed claimed subject matter, accordingly, the aforementioned claims 2-3, and 8 would be deemed as being cancelled.

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 1, 4-5, 7, and 9-13 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

More specifically, "said mobile magnetic plate configured intended to come into contact with said at least one stop to prevent contact between the plate and the electromagnet" in claims 1, and 11 is inoperative, because "the plate" would contact "the electromagnet", except at "at least one stop".

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3. Claims 1, 4-5, 7, and 9-13 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

More specifically, "said mobile magnetic plate configured come into contact with said at least one stop to prevent contact between the plate and the electromagnet" in claims 1, and 11 is new matter.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. ***Claims 1, 5, 7, and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kreuter (US Patent 4,715,332) in view of Iida et al. (US Patent 6,679,204).***

Kreuter discloses an electromechanical valve actuator for internal combustion engines, comprising an electromagnet (66, 68) and a mobile magnetic plate (46) coupled to a valve of the engine, at least one stop (96, 100) being located between said magnet of said electromagnet and said mobile magnetic plate, said mobile magnetic plate configured to come into contact with said at least one stop to prevent contact between the plate and the electromagnet, at the contacting surface area of the said

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stop; wherein the electromagnet comprises an E-shaped magnetic circuit, and the stop is located at an end of one of three essentially parallel branches that form the E-shaped magnetic circuit.

Kreuter discloses the invention as recited above, however, fails to disclose the electromagnet comprising a magnet in the magnetic circuit

The patent to Iida on the other hand, teaches that it is conventional in the electromagnetic engine valve actuator art, to utilize magnets (36) in a magnetic circuit.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have utilized the magnets in the magnetic circuit as taught by Iida in the Kreuter device, since the use thereof would provide an improved engine electromechanical valve actuator, which has an effective magnetic flux density, and an energy saving feature.

6. ***Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kreuter (US Patent 4,715,332) in view of Iida et al. (US Patent 6,679,204).***

Kreuter discloses an electromechanical valve actuator for internal combustion engines, comprising an electromagnet (66, 68) and a mobile magnetic plate (46) intended to come into contact with a part of the electromagnet, at least one stop (96, 100) being located between said magnet of said electromagnet and said mobile magnetic plate, said mobile magnetic plate configured to come into contact with said at least one stop to prevent contact between the plate and the electromagnet, at the contacting surface area of the said stop, wherein a contact surface area of the mobile magnetic plate is smaller than a total surface area of the plate.

Kreuter discloses the invention as recited above, however, fails to disclose the electromagnet comprising a magnet in the magnetic circuit

The patent to Patel on the other hand, teaches that it is conventional in the electromagnetic engine valve actuator art, to utilize magnets (36) in a magnetic circuit.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have utilized the magnets in the magnetic circuit as taught by lida in the Kreuter device, since the use thereof would provide an improved engine electromechanical valve actuator, which has an enhanced magnetic flux density, and an energy saving feature.

7. Claims 1, 4-5, 7, and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wuebbeke (EP '806) in view of lida et al. (US Patent 6,679,204).

Wuebbeke discloses an electromechanical valve actuator for internal combustion engines, comprising an electromagnet (1, 2.1) and a mobile magnetic plate (3) intended to come into contact with a part of the electromagnet, at least one stop (4, 2.2) being located between said magnet of said electromagnet and said mobile magnetic plate, said mobile magnetic plate configured to come into contact with said at least one stop to prevent contact between the plate and the electromagnet, at the contacting surface area of the said stop; wherein the electromagnet comprises an E-shaped magnetic circuit, and the stop is located at an end of one of three essentially parallel branches that form the E-shaped magnetic circuit; wherein the at least one stop includes a plurality of stops and each of the plurality of stops is located on one of the electromagnet and the plate,

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the stops between arranged symmetrically in relation to an axis of translation of the plate.

Wuebbeke discloses the invention as recited above, however, fails to disclose the electromagnet comprising a magnet in the magnetic circuit

The patent to Iida on the other hand, teaches that it is conventional in the electromagnetic engine valve actuator art, to utilize magnets (36) in a magnetic circuit.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have utilized the magnets in the magnetic circuit as taught by Iida in the Wuebbeke device, since the use thereof would provide an improved engine electromechanical valve actuator, which has an enhanced magnetic flux density, and an energy saving feature

8. ***Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wuebbeke (EP '806) in view of Iida et al. (US Patent 6,679,204).***

Wuebbeke discloses an electromechanical valve actuator for internal combustion engines, comprising an electromagnet (1, 2.1) and a mobile magnetic plate (3) coupled to a valve of the engine, at least one stop (4, 2.2) being located between said magnet of said electromagnet and said mobile magnetic plate, said mobile magnetic plate configured to come into contact with said at least one stop to prevent contact between the plate and the electromagnet, at the contacting surface area of the said stop, wherein a contact surface area of the mobile magnetic plate is smaller than a total surface area of the plate.

Wuebbeke discloses the invention as recited above, however, fails to disclose the electromagnet comprising a magnet in the magnetic circuit.

The patent to lida on the other hand, teaches that it is conventional in the electromagnetic engine valve actuator art, to utilize magnets (36) in a magnetic circuit.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have utilized the magnets in the magnetic circuit as taught by lida in the Wuebbeke device, since the use thereof would provide an improved engine electromechanical valve actuator, which has an enhanced magnetic flux density, and an energy saving feature.

9. *Claims 10, and 12-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kreuter or Wuebbeke in view of lida (as applied to claims 1, and 11 above), and further in view of design choice.*

The modified Kreuter or Wuebbeke device disclosed the claimed invention except for the material of the stop.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use either a magnetic or a elastomeric material, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

10. *Claims 1, 5, 7, and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kreuter (US Patent 4,715,332) in view of Grundl et al. (US Patent 6,755,161).*

Kreuter discloses an electromechanical valve actuator for internal combustion engines, comprising an electromagnet (66, 68) and a mobile magnetic plate (46) coupled to a valve of the engine, at least one stop (96) being located between said magnet of said electromagnet and said mobile magnetic plate, said mobile magnetic plate configured to come into contact with said at least one stop to prevent contact between the plate and the electromagnet, at the contacting surface area of the said stop; wherein the electromagnet comprises an E-shaped magnetic circuit, and the stop is located at an end of one of three essentially parallel branches that form the E-shaped magnetic circuit.

Kreuter discloses the invention as recited above, however, fails to disclose the electromagnet comprising a magnet in the magnetic circuit

The patent to Grundl on the other hand, teaches that it is conventional in the electromagnetic engine valve actuator art, to utilize magnets (30) in a magnetic circuit.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have utilized the magnets in the magnetic circuit as taught by Grundl in the Kreuter device, since the use thereof would provide a more compact and effective engine electromechanical valve actuator.

11. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kreuter (US Patent 4,715,332) in view of Grundl et al. (US Patent 6,755,161).

Kreuter discloses an electromechanical valve actuator for internal combustion engines, comprising an electromagnet (66, 68) and a mobile magnetic plate (46) intended to come into contact with a part of the electromagnet, at least one stop (96)

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being located between said magnet of said electromagnet and said mobile magnetic plate, said mobile magnetic plate configured to come into contact with said at least one stop to prevent contact between the plate and the electromagnet, at the contacting surface area of the said stop, wherein a contact surface area of the mobile magnetic plate is smaller than a total surface area of the plate.

Kreuter discloses the invention as recited above, however, fails to disclose the electromagnet comprising a magnet in the magnetic circuit

The patent to Grundl on the other hand, teaches that it is conventional in the electromagnetic engine valve actuator art, to utilize magnets (30) in a magnetic circuit.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have utilized the magnets in the magnetic circuit as taught by Grundl in the Kreuter device, since the use thereof would provide a more compact and effective engine electromechanical valve actuator.

12. Claims 1, 4-5, 7, and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wuebbeke (EP '806) in view of Grundl et al. (US Patent 6,755,161).

Wuebbeke discloses an electromechanical valve actuator for internal combustion engines, comprising an electromagnet (1, 2.1) and a mobile magnetic plate (3) intended to come into contact with a part of the electromagnet, at least one stop (4, 2.2) being located between said magnet of said electromagnet and said mobile magnetic plate, said mobile magnetic plate configured to come into contact with said at least one stop to prevent contact between the plate and the electromagnet, at the contacting surface area

of the said stop; wherein the electromagnet comprises an E-shaped magnetic circuit, and the stop is located at an end of one of three essentially parallel branches that form the E-shaped magnetic circuit; wherein the at least one stop includes a plurality of stops and each of the plurality of stops is located on one of the electromagnet and the plate, the stops between arranged symmetrically in relation to an axis of translation of the plate.

Wuebbeke discloses the invention as recited above, however, fails to disclose the electromagnet comprising a magnet in the magnetic circuit

The patent to Grundl on the other hand, teaches that it is conventional in the electromagnetic engine valve actuator art, to utilize magnets (36) in a magnetic circuit.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have utilized the magnets in the magnetic circuit as taught by Grundl in the Wuebbeke device, since the use thereof would provide an improved engine electromechanical valve actuator, which has an enhanced magnetic flux density, and an energy saving feature

13. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wuebbeke (EP '806) in view of Grundl et al. (US Patent 6,755,161).

Wuebbeke discloses an electromechanical valve actuator for internal combustion engines, comprising an electromagnet (1, 2.1) and a mobile magnetic plate (3) coupled to a valve of the engine, at least one stop (4, 2.2) being located between said magnet of said electromagnet and said mobile magnetic plate, said mobile magnetic plate configured to come into contact with said at least one stop to prevent contact between

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the plate and the electromagnet, at the contacting surface area of the said stop, wherein a contact surface area of the mobile magnetic plate is smaller than a total surface area of the plate.

Wuebbeke discloses the invention as recited above, however, fails to disclose the electromagnet comprising a magnet in the magnetic circuit.

The patent to Grundl on the other hand, teaches that it is conventional in the electromagnetic engine valve actuator art, to utilize magnets (30) in a magnetic circuit.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have utilized the magnets in the magnetic circuit as taught by Lida in the Wuebbeke device, since the use thereof would provide a more compact and effective engine electromechanical valve actuator.

14. ***Claims 10, and 12-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kreuter or Wuebbeke in view of Grundl (as applied to claims 1, and 11 above), and further in view of design choice.***

The modified Kreuter or Wuebbeke device disclosed the claimed invention except for the material of the stop.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use either a magnetic or a elastomeric material, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

15. ***Claims 1, and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Oyama et al. (US Patent 6,371,063) in view of Iida et al. (US Patent 6,679,204) or Grundl et al. (US Patent 6,755,161).***

Oyama discloses an electromechanical valve actuator for internal combustion engines, comprising an electromagnet (6, 7) and a mobile magnetic plate (3) coupled to a valve of the engine, at least one stop (23) being located between said magnet of said electromagnet and said mobile magnetic plate, said mobile magnetic plate configured to come into contact with said at least one stop to prevent contact between the plate and the electromagnet, at the contacting surface area of the said stop, wherein a contact surface area of the mobile magnetic plate is smaller than a total surface area of the plate.

Wuebbeke discloses the invention as recited above, however, fails to disclose the electromagnet comprising a magnet in the magnetic circuit.

The patent to Iida or Grundl on the other hand, teaches that it is conventional in the electromagnetic engine valve actuator art, to utilize magnets (36 in Iida; 30 in Grundl) in a magnetic circuit.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have utilized the magnets in the magnetic circuit as taught by Iida or Grundl in the Oyama device, since the use thereof would provide a more compact and effective engine electromechanical valve actuator.

16. ***Claims 10, and 12-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Oyama in view of Iida or Grundl (as applied to claims 1, and 11 above), and further in view of design choice.***

The modified Oyama device disclosed the claimed invention except for the material of the stop.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use either a magnetic or a elastomeric material, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

Response to Arguments

17. Applicant's arguments with respect to claims 1, 4-5, 7, and 9-13 filed on 10/16/2006 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

18. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

19. Any inquiry concerning this communication or earlier communications from the examiner should be directed to CHING CHANG whose telephone number is (571)272-4857. The examiner can normally be reached on M-Th, 7:00 AM -5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Denion can be reached on (571)272-4859. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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/Ching Chang/

Primary Examiner, Art Unit 3748